

Application No. 10/771,797  
Response dated: April 13, 2006  
Reply to Office action of October 13, 2005

### **REMARKS**

In response to the Office Action dated October 13, 2005, Applicants respectfully request reconsideration based on the above claim amendments and the following remarks. Applicants respectfully submit that the claims as presented are in condition for allowance.

Claims 1-19 were previously pending in the present Application, with claims 18-19 now withdrawn from further consideration. Claims 1-17 remain for consideration upon entry of the present amendments and following remarks. Support for the claim amendments can at least be found in the specification, the figures, and the claims as originally filed.

No new matter has been introduced by these amendments. Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

### **Claim Rejections Under 35 U.S.C. §112**

Claims 14-17 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention for the reasons stated on page 2 of the Detailed Action. In response, claims 14-16 have been amended as set forth above in order to change the "third" control signal to the "first" control signal. Accordingly, it is now respectfully requested that §112 rejections be withdrawn.

### **Claim Rejections Under 35 U.S.C. §102**

Claims 1-13 and 14-28 stand rejected under 35 U.S.C. §102(b), (e) as being anticipated by Figs. 1 and 2 of Applicant's cited prior art and/or Kim et al. (U.S. Patent Publication No. 2003/0090614) for the reasons stated on pages 2-4 of the Detailed Action. Applicants respectfully traverse.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). It is

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submitted that Figs. 1 and 2 and/or Kim fails to teach each and every element as set forth in the claims for at least the reasons described below.

The invention of the present application provides for a deterioration compensation mechanism that allows for the pull-down transistor (Q2) in each shift register stage to continue to conduct at desired intervals, even as its threshold voltage deteriorates over time. This is achieved by providing a pulsed, AC control signal to the gate of the pull-down transistor Q2. The AC control signal swings between predetermined voltage levels (specification, page 19, lines 14-19), and thus the second control signal of the present invention also swings between first and second voltage levels. The maximum value of this pulsed control signal will always exceed the threshold voltage of the pull-down transistor, even as it continues to increase over time.

In contrast, the conventional 7-transistor shift register stage of the prior art does not provide this type of pulsed AC signal to the gate of the pull-down transistor Q2. In particular, the rising threshold voltage (over time) of Q2 in the conventional design will eventually reach a level that equals the maximum voltage of the direct current (DC) control signal (VON) externally applied thereto, as is explained in the background section of the application and illustrated by Figure 4 of the application.

Accordingly, it is respectfully submitted that the rejection of claims 1-13 under § 102(b), (c) be withdrawn.

#### Double Patenting

Claims 1-17 are provisionally rejected over claims 1-20 of co-pending Application No. 10/454,331, under the judicially created doctrine of non-statutory double patenting for the reasons stated on pages 4-5 of the Detailed Action. Applicants respectfully traverse.

The claims of the '331 recite the general elements of a shift register (e.g., pull-up part, pull-down part, pull-up driving section, pull-down driving section the claims); however, they do not provide for the deterioration compensation portion of the pull-down driver that includes a second control signal that swings between first and second voltage levels in association with an input voltage signal. Therefore, the claims of the present application are patentably distinct from U.S. Application 10/454,331.

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Reconsideration and withdrawal of the non-statutory double patenting rejection of claims 1-17 is thus respectfully requested.

**Conclusion**

In view of the foregoing, it is respectfully submitted that the instant application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone conference with Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

In the event the Commissioner of Patents and Trademarks deems additional fees to be due in connection with this application, Applicants' attorney hereby authorizes that such fee be charged to Deposit Account No. 06-1130.

Respectfully submitted,

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